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# UK recovery guidance and advice for the remediation of the environment following a chemical incident.

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affect mental health: lead alters behaviour; green spaces improve health. The general public calls Cheshire & Merseyside PHEC help-desk with many varied environmental concerns, contributing to the work-load without necessarily being easy to solve. We examined enquires over 16 months to improve understanding of the concerns and our response.

**Methods:** We reviewed logged enquiries, paying particular attention to records with abnormal complaints or bizarre behaviours, or where multi-agency follow-up found no physical or rational cause for concern. Records were scrutinised for potential evidence of poor mental health affecting the individuals involved. Focussed literature searches were performed: "chemical", "sensitivity", "hypersensitivity", "parositis", "infestation", "delusion", "hallucination", "paranoia", "psychosis", "mental health", "paraphrenia", "schizophrenia", "psychiatric", "depression", "mood", "complaint", "concern", "worry" and "public health".

**Results:** Several cases with potential psychiatric components were identified (recognising diagnostic limitations), including emotional or psychosomatic problems arising from noise and tinnitus, persecutory delusions (from neighbours with chemicals), partition delusions (being interfered with by chemical invading their home), multiple chemical sensitivity and electromagnetic hypersensitivity (both: non-specific symptoms with exposure to doses below those known to cause harmful effects), delusions about parasites and chemicals giving rise to monosymptomatic hypochondriacal psychosis characterised by a single paranoid delusion with no additional thought disorder.

**Conclusions:** Case studies were developed to aid staff learning; a structured approach to such enquiries was introduced to reduce staff stress, improve patient compliance and identify appropriate multi-agency interventions.

**O26**

#### **UK RECOVERY GUIDANCE AND ADVICE FOR THE REMEDIATION OF THE ENVIRONMENT FOLLOWING A CHEMICAL INCIDENT**

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Global events have shown that chemical incidents can have huge consequences on human health, the environment and society. It is important that in the event of such an occurrence, the appropriate tools and technical guidance are available to ensure that remediation can be completed quickly and efficiently. Public Health England (PHE) is leading the development of a series of recovery handbooks with support from other Government Departments and Agencies.

The UK Chemical Recovery Handbook was published in 2012[1], and includes guidance and advice on the recovery and remediation of the environment in the post-incident (post-acute) phase and focusses on environmental clean-up methods. The Handbook provides a framework for developing and selecting an effective recovery strategy following a chemical incident, and contains a compendium of practicable, evidence based recovery options for Inhabited Areas, Food Production Systems and Water Environments [2].

Public Health England is also developing a chemical and radiation recovery decision support tool, in collaboration with UK Government Departments and Agencies. It is envisaged that the decision support tool will assist users navigating through the recovery handbooks and provide a consistent methodology to compare remediation techniques and a framework for documenting the parameters, assumptions and information used to reach the decision on how to remediate the affected environment following a chemical or radiation incident.

[1] Wyke-Sanders et al. (2012). The UK Recovery Handbook for Chemical Incidents. Available at: <https://www.gov.uk/government/collections/recovery-remediation-and-environmental-decontamination>

[2] Nisbet et al. (2009). UK Recovery Handbooks for Radiation Incidents. Available at: <https://www.gov.uk/government/collections/recovery-remediation-and-environmental-decontamination>

## O27

### **RABIES BOOSTERS: SEROLOGICAL FOLLOW-UP OF BAT WORKERS**

*Bengü Said<sup>1</sup>, Hilary Kirkbride<sup>1</sup>, Daniel Horton<sup>2</sup>, Anthony Fooks<sup>2</sup>, David Brown<sup>1</sup>, Dilys Morgan<sup>1</sup>*

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Rabies is an acute viral infection affecting the central nervous system. Clinical rabies is invariably fatal once symptoms become apparent but it can be prevented by vaccination and immunoglobulin.

Although there have been no human cases of indigenous classical rabies in the UK since 1902, a fatal case caused by European bat lyssavirus type 2 (EBLV-2) occurred in 2002. EBLV-2 antibodies are detected in about 2% of British Daubenton's bats (*Myotis daubentonii*). For people who are at regular risk of exposure to rabies, a primary course of rabies vaccine (three intramuscular injections) with a single reinforcing dose one year later is followed by further boosters given every three to five years thereafter.

This study, undertaken between August 2010 and August 2013, was designed to improve the understanding of the serological antibody response to rabies vaccination. Currently WHO recommend that a booster is administered when the rabies virus-neutralising antibody titre falls below 0.5IU/ml. The study aim was to develop more specific advice on the timing of rabies booster vaccinations and to record the rate of adverse reactions due to booster vaccinations.

A total of 150 bat workers, due for secondary or subsequent booster vaccinations during the study period, participated in the study. There were 77 male and 73 female participants aged between 29 and 81 years (mean 54 years). Rabies virus-neutralising antibody titre was  $\geq 0.5IU/ml$  for all but one participant. A range of adverse reactions were reported by 65 (43%) of participants. The implications of these results will be discussed.